EAST AFRICAN COMMUNITY

EDICT OF GOVERNMENT

In order to promote public education and public safety, equal justice for all, a better informed citizenry, the rule of law, world trade and world peace, this legal document is hereby made available on a noncommercial basis, as it is the right of all humans to know and speak the laws that govern them.

EAS 8 (2008) (English): Raw cane sugar – Specification



BLANK PAGE





PROTECTED BY COPYRIGHT

EAS 8

ICS **67.180.10**

EAST AFRICAN STANDARD

Raw cane sugar — Specification

EAST AFRICAN COMMUNITY

© EAC 2008

Second Edition 2008

Copyright notice

This EAC document is copyright-protected by EAC. While the reproduction of this document by participants in the EAC standards development process is permitted without prior permission from EAC, neither this document nor any extract from it may be reproduced, stored or transmitted in any form for any other purpose without prior written permission from EAC.

Requests for permission to reproduce this document for the purpose of selling it should be addressed as shown below or to EAC's member body in the country of the requester:

© East African Community 2008 — All rights reserved
East African Community
P.O.Box 1096
Arusha
Tanzania
Tel: 255 27 2504253/8
Fax: 255 27 2504481/2504255
E-mail: eac@eachq.org
Web: www.eac-quality.net

Reproduction for sales purposes may be subject to royalty payments or a licensing agreement. Violators may be persecuted

© EAC 2008 – All rights reserved

Contents Page

Foreword ..... **iv**

1 Scope **1**

2 Normative references **1**

3 Terms and definitions **2**

4 Requirements **2**
4.1 General requirements **2**
4.2 Compositional requirements **2**

5 Contaminants **3**
5.1 Heavy metals **3**
5.2 Pesticide residues **3**

6 Hygiene **3**
6.1 General requirements **3**
6.2 Specific requirements **3**

8 Labelling **4**

9 Method of sampling **4**
9.1 General requirements for sampling **4**
9.2 Scale of sampling **5**
9.3 Preparation of sample **5**

10 Methods of analysis **5**

© EAC 2008 – All rights reserved

Foreword

Development of the East African Standards has been necessitated by the need for harmonizing requirements governing quality of products and services in the East African Community. It is envisaged that through harmonized standardization, trade barriers that are encountered when goods and services are exchanged within the Community will be removed.

In order to achieve this objective, the Community established an East African Standards Committee mandated to develop and issue East African Standards.

The Committee is composed of representatives of the National Standards Bodies and other regulatory bodies in the Partner States, together with the representatives from the private sectors and consumer organizations. Draft East African Standards are circulated to stakeholders through the National Standards Bodies in the Partner States. The comments received are discussed and incorporated before finalization of standards, in accordance with the procedures of the Community.

East African Standards are subject to review, to keep pace with technological advances. Users of the East African Standards are therefore expected to ensure that they always have the latest versions of the standards they are implementing.

This draft is the second edition and once approved will cancel and replace the first edition, EAS 8:2000, which is being technically revised.

© EAC 2008 – All rights reserved

Raw cane sugar — Specification

1 Scope

This standard specifies requirements, methods of test and sampling for raw sugar produced from sugarcane and intended for further processing to make it fit for human consumption.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EAS 38, *Labelling of pre-packaged foods — Specification*

EAS 39*, Hygiene in the food and drink manufacturing industry — Code of practice*

EAS 217-2, *Methods for the microbiological examination of foods — Part 2: General guidance for the enumeration of micro-organisms-colony count technique at 30 °C*

EAS 217-6, *Methods for microbiological examination of foods — Part 6: Examination for Salmonella spp*

EAS 217-8, *Methods for the microbiological examination of foods — Part 8: Enumeration of yeast and moulds in foods*

ICUMSA Method GS 1/2/3/9-1, *The Determination of Polarisation of Raw Sugar by Polarimetry*

ICUMSA Method GS 1/3/4/7/8-13, *The Determination of Conductivity Ash in Raw Sugar*

ICUMSA Method GS 1/3-7, *The Determination of Raw Sugar Solution Colour at pH 7.0*

ICUMSA Method GS 1/3/7-3*, The Determination of Reducing Sugars in Cane Raw Sugar, Lane+Eynon Procedure*

ICUMSA Method GS 1-5, *The Determination of Reducing Sugars in Cane Raw Sugar, Luff-Schoorl Procedure*

ICUMSA Method GS 1-10, *The Determination of Ash in Raw Sugar by Single Sulphation*

ICUMSA Method GS 1-16, *The Determination of Starch in Raw Sugar by the BSES method*

ICUMSA method GS 1-17, *The Determination of Starch in Raw Sugar by the SPRI Rapid Starch Test*

ICUMSA Method GS 2/1/3/9-15, *The Determination of Sugar Moisture by Loss on Drying*

ICUMSA Method GS 2/1/3-27*, The Determination of Lead in Sugar Products by a Colorimetric Method*

ICUMSA Method GS 2/3-23, *The Determination of Arsenic and Lead in White Sugar, Atomic Adsorption Spectroscopy*

ICUMSA Method GS 9/1/2/3-8, *The Determination of Raw Sugar Solution Colour at pH 7.0, MOPS Method*

© EAC 2008 – All rights reserved

ISO 7251, *Microbiology of food and animal feeding stuffs — Horizontal method for the detection and enumeration of presumptive Escherichia coli — Most probable number technique*

3 Terms and definitions

For the purposes of this standard, the following terms and definitions shall apply.

3.1
raw cane sugar
centrifugal sugar whose crystals are surrounded by film of molasses and is derived from sugar cane

3.2
ICUMSA unit
international unit developed by International Commission for Universal Methods of Sugar Analysis (ICUMSA) for expressing the purity of sugar and is directly related to the colour of sugar

3.3
polarisation
estimate of the sucrose content of sugar expressed as degrees of polarization

3.4
lot
collection of packages of the same size, type and style which have been manufactured and packaged under essentially the same conditions

4 Requirements

4.1 General requirements

Raw cane sugar shall be

a) in the form of uniform crystals;

b) free from dirt, foreign and extraneous matter; and

c) free from fermented, musty or undesirable odours.

4.2 Compositional requirements

Raw cane sugar shall conform to the compositional factors in Table 1

© EAC 2008 – All rights reserved

Table 1 — Composition and quality factors

S No	Characteristic	Requirement/limits	Method of test
i.	Polarisation, ^{o}Z (min)	96.0	ICUMSA Method GS 1/2/3/9-1
ii.	Invert sugar content % m/m (max)	1.2	ICUMSA Method GS 1-5 ICUMSA Method GS 1/3/7-3
iii.	Conductivity ash, % m/m (max)	1.0	ICUMSA Method GS 1-10 ICUMSA Method GS 1/3/4/7/8-13
iv.	Moisture content, % (max) (3 h at 105 ^{o}C ± 2 ^{o}C)	1.0	ICUMSA Method GS 2/1/3/9-15
v.	Colour, in ICUMSA units (max) at 420 nm	1 500	ICUMSA Method GS 1/3-7 ICUMSA Method GS 9/1/2/3-8
vi	Starch, mg/kg m/m (max)	450	ICUMSA Method GS 1-16 ICUMSA method GS 1-17

5 Contaminants

5.1 Heavy metals

Raw cane sugar shall be free from heavy metals in amounts which may represent a hazard to human health and shall conform the limits indicated in Table 2:

Table 2 — Maximum permissible levels of heavy metal contaminants

S No	Heavy metal,	Maximum limit, mg/kg	Method of test
i.	Arsenic (As)	1	ICUMSA Method GS 2/3-23
ii.	Lead (Pb)	2	ICUMSA Method GS 2/1/3-27

5.2 Pesticide residues

Raw cane sugar shall conform to those maximum residue limits established by the Codex Alimentarius Commission.

6 Hygiene

6.1 General requirements

Raw cane sugar shall be prepared and handled in accordance with the requirements of EAS 39.

6.2 Specific requirements

The product shall conform to the microbiological limits in Table 3.

© EAC 2008 – All rights reserved

Table 3 — Microbiological limits for raw cane sugar

Microbiological parameter	Limit	Method of test
Total Plate Count (mesophylic), CFU/10 g , max	104	EAS 217-2:
Yeast and moulds, CFU/10 g, max	50	EAS 217-8
Escherichia coli, CFU/g	<1	ISO 7251
Salmonella, per 25 g	Absent	EAS 217-6

7 Packaging

Raw cane sugar shall be packaged in food grade materials that ensure product safety and integrity.

NOTE Packaging materials may be required to meet different regulations in the different destination countries.

The package fill shall conform to the requirements of the legal metrology of the Partner States.

8 Labelling

In addition to the requirements of EAS 38, the following specific provisions shall apply:

a) the name of the product shall be declared as “Raw cane sugar”;.

b) the net contents shall be declared by weight in the metric units (*'Systeme International'*);

c) the name, address and physical location of the manufacturer and/or the packer, distributor, importer, exporter or vendor of the product shall be declared;

d) the country of origin of the product shall be declared; and

e) the declaration, “Not for direct human consumption”.

9 Method of sampling

9.1 General requirements for sampling

In drawing, preparing, storing and handling of samples, the following precautions and directions shall be observed.

a) Samples shall be taken in a protected place not exposed to damp air, dust or soot.

b) The sampling instruments shall be clean and dry when used.

c) When sampling for microbiological purposes, the sampling instruments and containers for samples shall be sterilized preferably by dry heat at 170 ^{o}C for 1 h before use.

d) Precautions shall be taken to protect the samples, the material being sampled, the sampling instruments and the containers for samples from adventitious contamination.

e) The samples shall be placed in clean, dry, and moisture-proof containers.

f) The sample containers shall be sealed air-tight after filling and marked with name of material, date of sampling, name of the manufacturer, name of the person sampling and such other particulars of the consignments.

 © EAC 2008 – All rights reserved

g) Samples shall be protected from light as far as practicable and shall be stored in a cool, dry place.

9.2 Scale of sampling

9.2.1 All the packages of the same size, type and style which have been manufactured and packaged under essentially the same conditions in a single consignment shall constitute a lot.. Samples shall be tested separately for each lot for ascertaining the conformity of the sugar.

9.2.2 The number of bags to be selected *(n)* from the lot shall depend on the size (*N*) of the lot and shall be in accordance with the formula:

$$n\sqrt{N}$$

These bags shall be selected at random from the lot; to ensure the randomness of selection a random number table, as agreed to between the purchaser and the supplier shall be used. In case such a table is not available, the following procedure shall be used:

Starting from any bag, count them as 1,2,3,….. up to *r* and so on in one order, where *r* is equal to the integral part of *N*/*n*, *N* being the total number of bags in the lot and *n* the number of bags to be selected. Every r^{th} bag thus counted shall be separated until the requisite number of bags is obtained from the lot to give samples for test.

In case of bags stacked in a pyramidal shape, approximately equal number of bags shall be selected from all exposed sides of the lot, so as to give the required number of sample bags.

9.3 Preparation of sample

9.3.1 Procedure

From the top, middle and bottom portions of each of the selected bags (see 9.2), approximately equal quantity of sugar shall be taken with the help of a suitable sampling instrument. The sample collected from each of the bags shall be thoroughly mixed so as to give a composite sample of 600 g. The composite sample thus prepared shall be divided approximately into three equal parts; one for the purchaser, one for the supplier, and the third for the referee and sealed air tight with particulars as given in 9.1.(f).

9.3.2 Number of tests

The composite sample prepared as under 9.3.1 shall be tested for the characteristics as prescribed in Table 1.

9.3.3 Criteria for conformity

The lot shall be declared as conforming to this specification, when the test results on various characteristics obtained on the composite sample satisfy the corresponding requirements.

10 Method of analysis — Determination of pesticides

Pesticide residues shall be determined according to AOAC methods of analysis for pesticides. (970.52, 985.22, and 970.53 of 1990).

.

© EAC 2008 – All rights reserved

© EAC 2008 — All rights reserved